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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/830,398 | 07/19/2001 | Milivoj Vujic | P24.870-USA | 7782 |

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| EXAMINER | |
|---|---|
| CHANG, VICTOR S | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 1771 | |

DATE MAILED: 10/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) |
|---|---|---|
| | 09/830,398 | VUJIC, MILIVOJ |
| | Examiner | Art Unit |
| | Victor S Chang | 1771 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) 1-4,14-17,19,20,24-26 and 30-33 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-4,14-17,19,20,24-26 and 30-33 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

### *Introduction*

**1.** The Examiner has carefully considered Applicants' amendments and remarks filed on 9/29/2004. Applicants' amendments to claims 1, 30-32 and 33, and new claim 33 have all been entered.

**2.** The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

**3.** Rejections not maintained are withdrawn. In particular, in view of newly amended claims, the rejection in section 4 of Office action dated 4/1/2004 is withdrawn. Also, with respect to Applicant's statement "U.S. Patent No. 5,565652 to Frye is ... mentioned, but the Examiner does not expressly link this reference, or Maybee, to rejections of a specific claim or claims", the Examiner notes that Fyre and Maybee are provided as evidences of state of the art in the prior Office action. Upon reconsideration, it is noted that the Primary reference Kikuchi also expressly teaches the specific limitations as evidenced by Maybee and Frye, as such the Examiner now withdraws Maybee and Frye references, and Applicant's arguments with respect to these references are moot.

### *Rejections Based on Prior Art*

**4.** Claims 1-4, 14-17, 19, 20, 24-26 and 30-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kikuchi (US 4287245) in view of GB 2096616, and further in

view of GB 2296749 for claims 14-15 and 17, generally as set forth in section 5 of Office action dated 4/1/2004, together with the following additional response to argument.

First, the Examiner repeats (see sections 9 and 11 of Office action dated 11/25/2002) the relied upon prior art Kikuchi and GB 2296749 as follows:

Kikuchi's invention is directed to a heat insulator for pipelines for transportation of low temperature fluids (Abstract). In Figs. 1-2, a pipe for transportation of an extremely low temperature fluid is provided with the heat insulator composed of a plurality of longitudinally divided cylindrical heat-insulating units arranged in series to cover the pipe over its full length (column 3, lines 63-68), and each heat-insulating unit is preferably semi-cylindrical in shape so that a pair of them is used as a minimum unit for the construction of the heat insulator (column4, lines 7-10). The heat-insulating element may have on its inner surface a layer of a reinforcing material such as a sheet, woven or knitted fabric, non-woven fabric or a low-foamed synthetic resin (column 5, lines 20-24). The foamed insulating synthetic resin is overlaid with a thin metal plate (column 4, lines 45-50), and it is noted that the metal plate inherently functions as a water vapor barrier layer. In case the heat insulator system is used at an ultra-low temperature, each joint surface is preferably stepped to form two separate sections and the inner section (or the lower temperature section) is packed under pressure with a heat insulating material having an effective compression stability while the outer section (or the higher temperature section) is packed with a moisture-proof, heat-insulating material. In Fig. 3, the structure of the insulating element is shown in which both of the faces 2a and the faces 2b are stepped (column 7, line 58 to column 8, line 8). The insulating material is a

foamed synthetic resin with excellent low temperature characteristics, e.g. a polyisocyanate-base foamed synthetic resin such as a rigid polyurethane foam or a polyisocyanurate foam, etc. (column 7, lines 23-28), and the Examiner notes that the common knowledge or well-known in the art statement in the prior Office action (see Office action dated 11/25/2002, page 6) that "polyimide foam is either anticipated, or an obvious selection to one of ordinary skill in the art" is taken to be admitted prior art because Applicant either failed to traverse the Examiner's assertion of official notice or that the traverse was inadequate. In Fig. 4, Kikuchi shows a gap 5, and Kikuchi expressly teaches that 5 stands for a heat-insulating material having a good compression stability (column 8, lines 12-13), which reads on the limitation "contraction/expansion joint comprising recess extending radially outwardly from said one surface and terminating in spaced apart relation to said cladding layer" in claim 1. Finally, with respect to the tongue and groove joints, although Kikuchi teaches a stepped contacting surface, it is noted that GB '749 is directed to a pipe insulation element. In Fig. 1, GB '749 shows a connection means of tongue and groove joints. As such, it would have been obvious to one of ordinary skill in the art to modify Kikuchi's contacting surface with the tongue and groove joints of GB '749, motivated by the desire to improve the sealing performance at the joint.

Referring to the newly amended independent claims 1 and 30 now recite *inter alia* "... first inner insulation layer being constituted of a flexible insulation material ...", Applicant's argument "Kirkuchi clearly does not anticipate Claim 1 because it fails to teach: (1) a flexible insulation material ... (2) a contraction/expansion joint positioned

between the ends of the insulation module; and (3) the contraction/expansion joint comprising a recess that extends radially outwardly and terminating in spaced relation to cladding layer" (Reply, pages 11-12, bridging paragraph) has been carefully considered, but is not persuasive. For points (2) and (3), the Examiner repeats, as set forth above, that Kikuchi shows a gap 5 in Fig. 4, and Kikuchi expressly teaches that 5 stands for a heat-insulating material having a good compression stability (column 8, lines 12-13), which clearly reads on the limitation "contraction/expansion joint comprising recess extending radially outwardly from said one surface and terminating in spaced apart relation to said cladding layer" in claim 1. As to point (1), it is noted that GB '616 is directed to flexibilization of expanded thermoplastic foam for low temperature insulation. GB '616 expressly teaches that rigid plastic foam sheets can be flexiblized by mechanical compression to obtain improved elongation, and the flexibilized foam is particularly desirable for low temperature and cryogenic insulation (page 1, lines 44-50). Further, flexibilized rigid foam is particularly valuable for low temperature insulation of pipelines, etc. (page 1, lines 19-20). As such, in the absence of unexpected results, it would have been obvious to one of ordinary skill in the art to modify and flexibilize Kirkuchi's rigid foams by mechanical compression, as taught by GB '616, motivated by the desire to obtain improved properties for low temperature insulation for pipelines.

For newly added claim 33, the Examiner repeats that Kikuchi shows a gap 5 in Fig. 4, and Kikuchi expressly teaches that 5 stands for a heat-insulating material having a good compression stability.

***Conclusion***

**5.** Any inquiry concerning this communication or earlier communications from the examiner should be directed to Victor S Chang whose telephone number is 571-272-1474. The examiner can normally be reached on 8:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel H Morris can be reached on 571-272-1478. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

VSC
Victor S Chang
Examiner
Art Unit 1771

2/21/2004

TERREL MORRIS
SUPERVISORY PATENT EXAMINER
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